

Attorney Docket No.: **P-457 (TI-0018)**
Inventors: **Gjerde et al.**
Serial No.: **09/826,055**
Filing Date: **April 3, 2001**
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This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-47 (canceled).

Claim 48 (original): A method for enhancing the detection of a polynucleotide separated by reversed phase ion pairing chromatography, said method comprising :

- a) contacting said polynucleotide with a reversible DNA-binding dye to form a complex between said polynucleotide and said reversible DNA-binding dye;
- b) applying said complex to a separation medium having a non-polar surface, wherein said separation medium is substantially free of multivalent cations capable of interfering with polynucleotide separation,
- c) eluting said complex from said surface with a mobile phase containing a counterion agent and an organic solvent, and
- d) detecting said complex.

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Claim 49 (original): The method of claim 48 wherein said multivalent cations comprise a member selected from the group consisting of Fe(III), Cr(III), colloidal metal contaminants and mixture of one or more thereof.

Claim 50 (original): The method of claim 48 in which said reversible DNA-binding dye is selected from the group consisting of DNA intercalator dye and DNA groove binding dye.

Claim 51 (original): The method of claim 50 in which said reversible DNA-binding dye is selected from the group consisting of PICO GREEN, ethidium bromide, propidium iodide, Acridine orange, 7-aminoactinomycin D, cyanine dye, Bisbenzimide, Benzoxanthene yellow, Netropsin, Indole dye, Imidazole dye, and Actinomycin D.

Claims 52-65 (canceled).

Claim 66 (original): A method for detecting a complex comprising a polynucleotide bound to a reversible DNA-binding dye, as separated by reversed phase ion pairing chromatography, said method comprising:

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- a) applying said complex to a separation medium having a non-polar surface, wherein said separation medium is substantially free of multivalent cations capable of interfering with polynucleotide separation,
- b) eluting said complex from said surface with a mobile phase containing a counterion agent and an organic solvent, and
- c) detecting said complex.

Claim 67 (original): The method of claim 66 wherein said multivalent cations comprise a member selected from the group consisting of Fe(III), Cr(III), colloidal metal contaminants and mixture of one or more thereof.

Claims 68-73 (canceled).